

I. Amendments to the Claims

This listing of claims replaces without prejudice all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-23 (Cancelled).

Claim 24 (Currently Amended) An unexpanded stent comprising:

a tubular wall having a series of undulating circumferential portions, each circumferential portion comprising alternating peaks and valleys;

the tubular wall also having a plurality of longitudinal portions connecting said series of undulating circumferential portions to form a porous, cylindrical surface;

a longitudinal portion connecting a peak in a first circumferential portion with a valley in a second circumferential portion adjacent to the first circumferential portion; and

each longitudinal portion having a flexure member, said flexure member, in two dimensions, being ~~(i)~~ non-sinusoidal, ~~(ii) isolated with respect to at least one adjacent~~

circumferential portion, and (iii) arcuate, each flexure member being connected to an adjacent circumferential portion with a straight strut portion which is disposed parallel to a longitudinal axis of the stent.

Claim 25 (Previously Presented) The stent of claim 24, wherein one or more of said plurality of longitudinal portions includes multiple flexure members within the same longitudinal portion.

Claim 26 (Previously Presented) The stent of claim 25, wherein said multiple flexure members within the same longitudinal portion have a same shape.

Claim 27 (Previously Presented) The stent of claim 25, wherein said multiple flexure members within the same longitudinal portion have a different shape.

Claim 28 (Previously Presented) The stent of claim 25, wherein said multiple flexure members within the same longitudinal portion have a first lateral section and a second lateral section, and wherein the first lateral section and the second lateral section are present on the same side of the longitudinal portion.

Claim 29 (Previously Presented) The stent of claim 25, wherein said multiple flexure members within the same longitudinal portion have a first lateral section and a second lateral section, and wherein the first lateral section and the second lateral section are present on different sides of the longitudinal portion.

Claim 30 (Previously Presented) The stent defined in claim 24, wherein a relative flexibility of the stent is variable in accordance with a thickness of at least one of the plurality of radially-expandable circumferential struts varying in the range of from about 0.0015 to about 0.0045 inches when measured on the outer surface of the tubular wall.

Claim 31 (Previously Presented) The stent defined in claim 24, further comprising a medicinal coating disposed thereon.

Claim 32 (Previously Presented) A stent system comprising a balloon catheter having an expandable portion, the expandable portion having disposed thereon the stent defined in claim 31.

Claim 33 (Previously Presented) The stent defined in claim 25, wherein said multiple flexure members within the same longitudinal portion have substantially the same shape and differing size.

Claim 34 (Previously Presented) The stent defined in claim 25, wherein said multiple flexure members within the same longitudinal portion have differing shape and size.

Claim 35 (Previously Presented) The stent defined in claim 24, wherein the porous, cylindrical surface comprises a repeating pattern comprised of a polygon having a pair of side walls substantially parallel to a stent longitudinal axis, and wherein the flexure member is disposed in each of the side walls.

Claim 36 (Previously Presented) The stent defined in claim 24, wherein the longitudinal portions are aligned in a spaced relationship parallel to a stent longitudinal axis.

Claim 37 (Previously Presented) The stent defined in claim 24, wherein the longitudinal portions are aligned in an interconnected relationship parallel to a stent longitudinal axis.

Claim 38 (Previously Presented) The stent defined in claim 24, wherein the stent is constructed of stainless steel.

Claim 39 (Previously Presented) The stent defined in claim 24, wherein said flexure member, in two dimensions, has a width less than a width of said undulating circumferential portions when measured on the outer surface of the tubular wall.

Claim 40 (Previously Presented) The stent defined in claim 24, wherein said flexure member, in two dimensions, being isolated with respect to a pair of adjacent circumferential portions.

Claim 41 (Previously Presented) The stent defined in claim 24, wherein the stent is constructed of a self-expanding material which expands at a temperature of greater than about 30°C.

Claim 42 (Previously Presented) The stent defined in claim 41, wherein the self-expanding material expands at a temperature of in the range of from about 30° to about 40°C.

Claim 43 (Previously Presented) The stent defined in claim 24, wherein adjacent undulating circumferential portions have substantially the same profile.

Claim 44 (Previously Presented) The stent defined in claim 24, wherein adjacent undulating circumferential portions have substantially different profiles.

Claim 45 (Currently Amended) An unexpanded stent comprising:

a tubular wall having a series of undulating circumferential portions;

the tubular wall also having a plurality of longitudinal portions connecting said series of undulating circumferential portions to form a porous, cylindrical surface; and

each of said plurality of longitudinal portions having a flexure member that provides lateral flexibility to said stent and is disposed within each of said plurality of longitudinal portions, each said flexure member, in two dimensions, being (i) non-sinusoidal, (ii) interposed between a pair of straight strut portions which are disposed parallel to a longitudinal axis of the stent ~~isolated with respect to adjacent circumferential portions~~, and (iii) arcuate.

Claim 46 (Previously Presented) The stent of claim 45, wherein one or more of said plurality of longitudinal portions includes multiple flexure members within the same longitudinal portion.

Claim 47 (Previously Presented) The stent of claim 46, wherein said multiple flexure members within the same longitudinal portion have a same shape.

Claim 48 (Previously Presented) The stent of claim 46, wherein said multiple flexure members within the same longitudinal portion have a different shape.

Claim 49 (Previously Presented) The stent of claim 46, wherein said multiple flexure members within the same longitudinal portion have a first lateral section and a second lateral section, and wherein the first lateral section and the second lateral section are present on the same side of the longitudinal portion.

Claim 50 (Previously Presented) The stent of claim 46, wherein said multiple flexure members within the same longitudinal portion have a first lateral section and a second lateral section, and wherein the first lateral section and the

second lateral section are present on different sides of the longitudinal portion.

Claim 51 (Currently Amended) The stent defined in claim 45, wherein a relative flexibility of the stent is variable in accordance with a thickness of at least one of the plurality of radially-expandable circumferential struts varying in the range of from about 0.0015 to about 0.0045 inches when measured on the outer surface of the tubular wall.

Claim 52 (Previously Presented) The stent defined in claim 45, further comprising a medicinal coating disposed thereon.

Claim 53 (Previously Presented) A stent system comprising a balloon catheter having an expandable portion, the expandable portion having disposed thereon the stent defined in claim 52.

Claim 54 (Previously Presented) The stent defined in claim 46, wherein said multiple flexure members within the same longitudinal portion have substantially the same shape and differing size.

Claim 55 (Previously Presented) The stent defined in claim 46, wherein said multiple flexure members within the same longitudinal portion have differing shape and size.

Claim 56 (Previously Presented) The stent defined in claim 45, wherein the porous, cylindrical surface comprises a repeating pattern comprised of a polygon having a pair of side walls substantially parallel to a stent longitudinal axis, and wherein the flexure structures are disposed in each of the side walls.

Claim 57 (Previously Presented) The stent defined in claim 45, wherein the longitudinal portions are aligned in a spaced relationship parallel to a stent longitudinal axis.

Claim 58 (Previously Presented) The stent defined in claim 45, wherein the longitudinal portions are aligned in an interconnected relationship parallel to a stent longitudinal axis.

Claim 59 (Previously Presented) The stent defined in claim 45, wherein the stent is constructed of stainless steel.

Claim 60 (Previously Presented) The stent defined in claim 45, wherein the stent is constructed of a self-expanding material.

Claim 61 (Previously Presented) The stent defined in claim 60, wherein the self-expanding material comprises nitinol.

Claim 62 (Previously Presented) The stent defined in claim 60, wherein the self-expanding material expands at a temperature of greater than about 30°C.

Claim 63 (Previously Presented) The stent defined in claim 45, wherein said flexure member, in two dimensions, has a width less than a width of said undulating circumferential portions when measured on an outer surface of the tubular wall.

Claim 64 (Previously Presented) The stent defined in claim 45, wherein adjacent undulating circumferential portions have substantially the same profile.

Claim 65 (Previously Presented) The stent defined in claim 45, wherein adjacent undulating circumferential portions have substantially different profiles.

Claims 66-128 (Cancelled).

Claim 129 (New) An unexpanded stent comprising:
a tubular wall having a series of undulating
circumferential portions;

the tubular wall also having a plurality of
longitudinal portions connecting said series of undulating
circumferential portions to form a porous, cylindrical surface;
and

each of said plurality of longitudinal portions having
a flexure member that provides lateral flexibility to said stent
and is disposed within each of said plurality of longitudinal
portions, each said flexure member, in two dimensions, being (i)
non-sinusoidal, (ii) arcuate, and (iii) comprising a pair of
substantially straight strut portions disposed substantially
orthogonal to a longitudinal axis of the stent, the pair of
substantially straight strut portions being interconnected by a
curved portion.

Claim 130 (New) The stent defined in claim 129,
wherein a relative flexibility of the stent is variable in
accordance with a thickness of at least one of the
circumferential portions varying in the range of from about

0.0015 to about 0.0045 inches when measured on the outer surface of the tubular wall.

Claim 131 (New) The stent defined in claim 129, further comprising a medicinal coating disposed thereon.

Claim 132 (New) A stent system comprising a balloon catheter having an expandable portion, the expandable portion having disposed thereon the stent defined in claim 129.

Claim 133 (New) The stent defined in claim 129, wherein the porous, cylindrical surface comprises a repeating pattern comprised of a polygon having a pair of side walls substantially parallel to a stent longitudinal axis, and wherein the flexure members are disposed in each of the side walls.

Claim 134 (New) The stent defined in claim 129, wherein the longitudinal portions are aligned in a spaced relationship parallel to a stent longitudinal axis.

Claim 135 (New) The stent defined in claim 129, wherein the longitudinal portions are aligned in an interconnected relationship parallel to a stent longitudinal axis.

Claim 136 (New) The stent defined in claim 129,
wherein the stent is constructed of stainless steel.

Claim 137 (New) The stent defined in claim 129,
wherein the stent is constructed of a self-expanding material.

Claim 138 (New) The stent defined in claim 129,
wherein said flexure member, in two dimensions, has a width less
than a width of the circumferential portions when measured on an
outer surface of the tubular wall.

Claim 139 (New) The stent defined in claim 129,
wherein adjacent circumferential portions have substantially the
same profile.

Claim 140 (New) The stent defined in claim 129,
wherein adjacent circumferential portions have substantially
different profiles.

Claim 141 (New) The stent defined in claim 24,
wherein the stent is constructed of a balloon expandable metal.

Claim 142 (New) The stent defined in claim 45,
wherein the stent is constructed of a balloon expandable metal.

Claim 143 (New) The stent defined in claim 129,
wherein the stent is constructed of a balloon expandable metal.

Claim 144 (New) The stent defined in claim 35,
wherein the polygon further comprises a first wall having a
concave shape and a second wall having a convex shape.

Claim 145 (New) The stent defined in claim 144,
wherein at least one of the first wall and the second wall has a
flat apex.

Claim 146 (New) The stent defined in claim 145,
wherein the flat apex comprises a pair of rounded shoulders.

Claim 147 (New) The stent defined in claim 144,
wherein at least one of the first wall and the second wall has a
rounded apex.

Claim 148 (New) The stent defined in claim 144,
wherein at least one of the first wall and the second wall has a
flat apex and the other of the first wall and the second wall
has a rounded apex.

Claim 149 (New) The stent defined in claim 148,
wherein the flat apex comprises a pair of rounded shoulders.

Claim 150 (New) The stent defined in claim 56,
wherein the polygon further comprises a first wall having a
concave shape and a second wall having a convex shape.

Claim 151 (New) The stent defined in claim 150,
wherein at least one of the first wall and the second wall has a
flat apex.

Claim 152 (New) The stent defined in claim 151,
wherein the flat apex comprises a pair of rounded shoulders.

Claim 153 (New) The stent defined in claim 150,
wherein at least one of the first wall and the second wall has a
rounded apex.

Claim 154 (New) The stent defined in claim 150,
wherein at least one of the first wall and the second wall has a
flat apex and the other of the first wall and the second wall
has a rounded apex.

Claim 155 (New) The stent defined in claim 154,
wherein the flat apex comprises a pair of rounded shoulders.

Claim 156 (New) The stent defined in claim 133,
wherein the polygon further comprises a first wall having a
concave shape and a second wall having a convex shape.

Claim 157 (New) The stent defined in claim 156,
wherein at least one of the first wall and the second wall has a
flat apex.

Claim 158 (New) The stent defined in claim 157,
wherein the flat apex comprises a pair of rounded shoulders.

Claim 159 (New) The stent defined in claim 156,
wherein at least one of the first wall and the second wall has a
rounded apex.

Claim 160 (New) The stent defined in claim 156,
wherein at least one of the first wall and the second wall has a
flat apex and the other of the first wall and the second wall
has a rounded apex.

Claim 161 (New) The stent defined in claim 160,
wherein the flat apex comprises a pair of rounded shoulders.